

Physical Science- Unit 1 Review Answers *are in italics:*

“Okay, I said I wasn’t going to publish the questions.

*Being the nice guy that I am and the effort you guys put into this review,
I decided that you deserved it!*

Who’s your favorite teacher???????”

1. Fill in the blanks:
“Science begins with _____ and often ends with _____.”
 - *Curiosity, Discovery*
2. Why did we make the 6 fingers box?
 - *To reinforce the need to use a standard unit of measure, Metric System.*
3. What are the steps of the scientific method?
(Remember your mnemonic?)
 - *Ask a question, Hypothesis, Test, Analyze, Conclusion*
4. What should a hypothesis always be?
 - *A statement, never a question, never begin with “I think”*
5. What is wrong with the following hypotheses?
 - a. I think that there are no such things as invisible fish. – *Never “I think”*
 - b. What do you feed invisible fish? – *Never a question.*
6. What should be stated in your conclusion?
 - *Maybe The question, always restate the hypothesis*
7. What happens when a hypothesis is proven wrong?
 - *Reform your hypothesis and try again.*
8. What happens when a hypothesis is proven correct numerous times?
 - *Try your experiment again, completing multiple trials.*
9. Fill in the blanks: Laws Describe Theories Explain.
Theories never become Laws.
10. What is the difference between precision and accuracy?
 - *Accuracy- when many people get the same answer, but not the desired answer (arrows are in a group, but not in the bulls eye)*
 - *Precision – when you get the desired result (all arrows in the bulls eye)*
11. What is a Manipulated Variable?
 - *The variable that you (man or woman) change in the experiment*
12. What is a Responding Variable?
 - *The thing that changes after you change the manipulated variable.*
13. What is a control experiment?
 - *An experiment where only one variable is changed, and is used to compare your results to.*
14. Answer the questions from the given graph.
 - a. 0.25 b. 0.35 c. $0.3 - 0.26 = 0.04$
 - *Be able to extract information from a plot-point graph.*
15. How long is this slip of paper? – 21.65 cm
 - a. What is the accepted error on this measurement device? $\pm 0.5\text{mm}$ or $\pm 0.05\text{cm}$

16. Why is the metric system so easy to use?

It's based on the number 10, so it's easy to multiply, divide, and convert by moving a decimal place.

17. Define the following metric prefixes:

- | | | | |
|----------|-------------|----------|--------|
| a. Mega | 1,000,000 | e. Kilo | 1000 |
| b. Deka | 10 | f. Deci | 1/10 |
| c. Centi | 1/100 | g. Milli | 1/1000 |
| d. Micro | 1/1,000,000 | | |

18. What is the base unit for:

- a. Length - *Meter*
- b. Mass – *Gram or kilogram*
- c. Volume - *Liter*

19. What is the density of a solid block measuring
3 cm x 4 cm x 5 cm, and a mass of 20 gm?

(Be able to solve problems with the density equation)

$d = ?$

$m = 20 \text{ gm}$

$V = 3 \times 4 \times 5 = 60 \text{ cm}^3$

$$d = m/V = 20/60 = \underline{0.33 \text{ gm/cm}^3}$$

20. What is the density of water, and when will an object sink in water?

- Density of water is 1 gm/ml
- Any object with a density of greater than 1 gm/ml will sink.

**Good Luck
Tomorrow!**